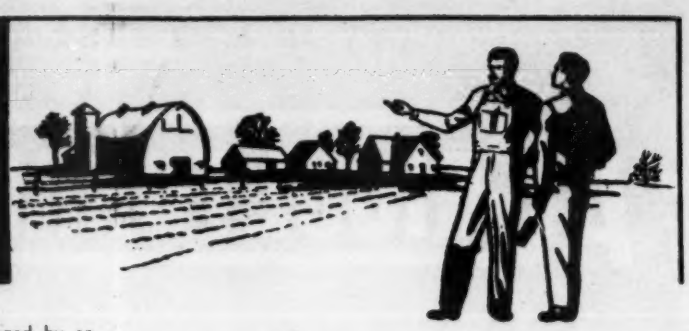
The AGRICULTURAL EDUCATION Magazine

The Agricultural Education Magazine



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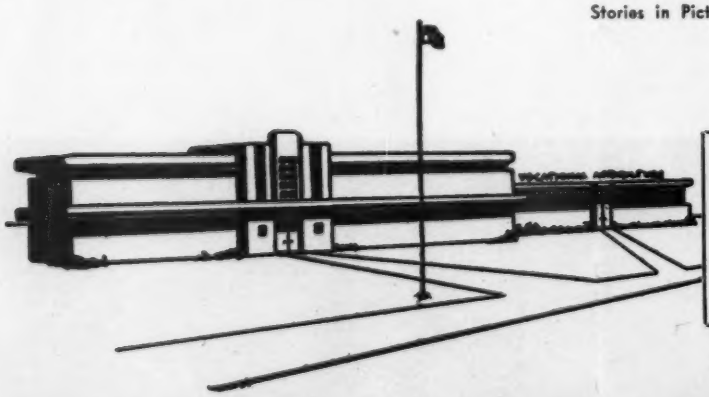

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Editorials

Never Plant a Two Dollar Rose in a Twenty-five Cent Hole

CLARENCE S. ANDERSON, Teacher Education Emeritus, The Pennsylvania State University

Many eggheads have a weakness for roses. And once retired—well, that's our chance!

The growing of fine roses had not exactly been within my experience background. Therefore, I enrolled for an adult evening class in rose culture. I would like to describe some of what took place at the first meeting of our class and, if I may, point out a corollary to the teaching of vocational agriculture.

Our instructor, a muscle-flexing, fresh-out-of-college chap who looked himself every bit like a newly patented All-American Floribunda, greeted us. A sturdy bareroot rosebush stood on the instructor's table. He picked up the rose, examined it, and laid it down as if to call our attention to the plant. The blackboard was shiny clean. He juggled his chalk with an air of thoughtful calculation. Then, turning to the board, our instructor printed these words, *"Never Plant a Two-Dollar Rose in a Twenty-five Cent Hole."*

This, I soon discovered, was to be his by-line or, as I prefer to call it, his punch-line for the lesson. We were to return to these words for an amplification of their full meaning many more times during our discussion. We were not only learning a great deal about roses, we were witnessing superb teaching.

Holding up the rose plant, he demonstrated how to prune and straighten the roots. The hole in which it is to be planted must be of proper depth, and should be wide to provide for full root spread. Provision must be made for effective drainage in the bottom of the hole. Then, also, there was the problem of applying the right kind and amount of fertilizer. Each major step in the planting of a rose was illustrated for us on the blackboard. As the lesson progressed, the teaching punch-line, *"Never Plant a Two-Dollar Rose in a Twenty-five Cent Hole,"* waxed increasingly important.

As I followed this capable teacher, I subconsciously made comparisons between his teaching and that of the many teachers of vocational agriculture whom I have observed at work. Clearly the steps employed in his simple rose-planting lesson have their counterparts in the teaching of vocational agriculture.

Like some rose planters, there are teachers of vocational agriculture, too, who make bad beginnings, chug *their* roses into crudely prepared holes, and try to cover *their* mistakes. The inevitable results are short lived roses and professionally short lived

Continued on page 76)

From the Editor's Desk . . .

Improvement starts from within - - -

Planning for teaching, as with other life activities, is subject to change. To decide regarding the kinds of changes to make in planning for teaching requires evaluation of our teaching in terms of our objectives and, since we do not have trained observers to help us everyday, this evaluation is largely a self-study proposition. How well do we do as evaluators of our own work? What might we find?

One thing we might find if we evaluate our teaching is that the interest of our group or class is lagging. It takes no magician to detect this. It is evident in the group response to questions, group reactions to statements made by the teacher or others, restlessness and other indications of inattentiveness. The teacher can actually feel that something is wrong. We can blame the weather, facilities or television if we wish, but an examination of how well we planned our approach to our class might be more profitable. We won't maintain a high level of interest all the time, but we can certainly strive for it.

Another thing we might find through evaluation of our teaching is that the classroom teaching is not carried over into practice. Could it be that we have not adjusted our course content to changes in farming? Or is it possible that we have failed to develop thorough understanding of the practices we would like to see put into use? A study of our course plans, teaching plans and teacher objectives might give us a clue to what is wrong. Maybe the boy isn't so lazy or indifferent after all.

As we listen to and evaluate the questions others ask us about our program, we might discover that a preponderance of the questions asked deal with how well the boys are doing in competitive activities. How does this relate to our teaching? An analysis of our use of time might indicate whether this is an indication of a lack of information as to the scope of the total program or an indication that our teaching objectives need changing.

If we take a few minutes at the end of the class, day or week to ask ourselves what we accomplished, we may begin to discover that we feel better about our teaching some days than on other days. The problem then is to figure out just why you feel satisfied or dissatisfied. Pinpointing the reasons will provide excellent clues for improving planning.

Students, too, can participate in the evaluation of instruction. Particularly with respect to how well they are doing. They can also provide suggestions for improving some aspects of the teaching-learning situation. It would be foolish to ignore these direct contributions of the students to the improvement of our planning for teaching.

These are only examples of the things we might find as we evaluate our teaching. What we find can either make us seek employment elsewhere, where we can be more effective, or it can serve as a challenge to improve our teaching. In the final analysis, true success in teaching comes only through constantly striving to improve through self-evaluation. □

Never Plant - - -

(Continued from page 75)

teachers of vocational agriculture. It is the groundwork that counts, whether it be roses or teaching.

With a sound beginning and with the necessary surroundings in which to grow, the teaching of vocational agriculture can become a vital part of the school and of the community. Interest and enrollment in the all-day classes is sustained. Participation in young and adult farmer classes accelerates. Each year more young men become firmly established in farming through sound farming programs begun in connection with their agricultural studies.

Unfortunately, these conditions do not just happen. They require the planning, the toil, and the sweat of an energetic, imaginative teacher like my teacher of rose culture.

Here is where every teacher of vocational agriculture enters the picture. I ask you, will the lessons you are teaching, the programs you are planning, and the community activities you are promoting be your All-American Floribunda someday? They can, but only if you remember to follow the punch-line, *"Never Plant a Two-Dollar Rose in a Twenty-five Cent Hole."* □

The Cover Picture

Ronald Cook of Orleans, Vermont, a senior in Agricultural Education at the University of Vermont, is demonstrating the use of a visual aid (chart) that he has prepared for use in his practice teaching in the Vo-Ag Department at North Troy, Vermont. Ronald is contracted to teach Vo-Ag at South Royalton, Vermont, in 1959-1960. □

Finding time for - - -

Professional Improvement on the Job

STANLEY H. ORE, Vo-Ag Instructor, Edgerton, Wis.

Stanley H. Ore

THE typical vocational agricultural teacher is a many sided individual. He is called upon to do a more diversified number of skills and possess a wider range of knowledge than any other man on the secondary school staff.

His Vocation

He must include among his technical skills carpentry, metal smithing, machine and automotive mechanics, veterinary science, electricity, refrigeration, plumbing, surface finishing and a host of others. The agriculture instructor must have a working and technical knowledge of bacteriology, dairy science, horticulture, agronomy, soil chemistry, the analysis and use of fertilizers, weed killers, insecticides and soil fumigants. He must understand the problems of the soils peculiar to the community in which he lives and serves. In order to do his work properly he must have a wide knowledge of the various aspects of conservation, particularly of the soil and the plants and animals that depend upon it.

The agriculture instructor must be an expert in plant and animal genetics, a feeds and feeding technician and a marketing specialist. He must also be skilled in organizational planning, bookkeeping, community relations and guidance.

In addition to the things mentioned, the agriculture teacher must possess all of the other attributes of a good teacher. His personal life should be exemplary, a fitting example to the young men with whom he works. Lastly, and by no means least, he must possess a love and understanding for young people in particular and his fellow man in general.

The Need for Improvement

The person trained in his work, today, comes out of college steeped in technical knowledge and possessing an unpolished group of skills. Because our world is progressing at a breakneck speed, the knowledge and skill he has acquired is outmoded in a relatively short time.

Agriculture has made more progress in the past one hundred years than it had made in all history up to a century ago. It is mandatory that the instructor be constantly searching for ways and means to keep abreast of these changes taking place around him. If he does not, he will soon become a follower rather than a leader in his community.

Some Ways and Means

During the regular school year most men are involved in their daytime program, plus a part-time and evening school adult program. This full time job in addition to the special assignments accorded all staff members leaves him with little time to think of professional improvement. This makes the summer months an ideal time to squeeze in some extra time for this purpose.

Current farm magazines, extension bulletins and special releases, vocational magazines, releases from commercial companies, etc., are good sources of information. If time is not found to give them thorough consideration at the time the information is made available, it should be marked and laid aside to be reviewed at greater length during the summer months.

Many state universities now have special four week sessions, on the graduate level, that teachers can attend without having to take leaves of absence and pay losses. It is understood in most cases that the teacher must forgo his vacation time in lieu of this school attendance.

Workshops, under the sponsorship of the State Vocational Board, Department of Conservation, packing companies, machine companies, etc., are often set up in areas where an interest is shown by instructors, making it possible for them to get practical and technical knowledge in special areas of interest. These usually last from two days to two weeks, and the time spent is considered as a good investment by local boards of education.

Many summer conferences provide special opportunities for men to get together with university specialists and learn of new developments in specialized areas. These are arranged so a different subject may be chosen each summer. This is done at the Wisconsin Summer Conference with very fine results.

An increasing number of men are forming county groups in cooperation with the county extension specialists to meet periodically, frequently as often as once per month, to talk over new developments and current problems. Men from specialized fields are called into these meetings to provide information and introduce new ideas. On many occasions the wives are invited for a supper meeting, after

which the ladies participate in social recreation while the men have their regular discussions.

There are many other ways in which Vo-Ag men may avail themselves of opportunities for professional betterment without taking time from the regular job. To do the job well and remain a leader in his community is a constant challenge. One can very quickly become a "has been" in the field of vocational agriculture. □

A critical look at the NFA and FFA organization - - -

Clean the Window

ARTHUR FLOYD, Supervision, Tuskegee Institute

Arthur Floyd

A RESTLESS, adolescent youngster persisted in looking through the window panes of his apartment while his mother was preoccupied with her housekeeping chores. The spectacle he observed aroused his curiosity and excited him to exclaim, "Mother, look at those dirty clothes hanging on that line outside!" The mother came to the window where he was seated and looked through the windowpane as he had requested. Then, looking down into the staring eyes of the lad said, "clean the window, son, clean the window."

In this, our day and generation, as we attempt to give direction to young people, as we attempt to counsel them and expose them to experiences that will be pertinent in their upward march on their journey of education, we may do well to realize early that their vision may be, or become, blurred and prevent them from seeing clearly or thinking straight.

NFA and FFA Are Teaching Devices

The NFA or FFA, the organization of rural young men studying vocational agriculture, should be considered as nothing more than a unit or device used in teaching vocational agriculture and not a separate entity with terminal objectives. It is not uncommon for some teachers of vocational agriculture to so conduct their programs of teaching vocational agriculture in their patronage or service areas and to discharge their duties and responsibilities as they move about in contact with pupils, patrons and others, that they are known and in many cases called the NFA or FFA man and not the teacher of vocational agriculture.

The faulty perception of the child who accused his neighbors of hanging out a dirty wash may in reality be not very much unlike the teacher of vocational agriculture who either says that there is little or nothing to all of the talk and concern about the NFA or FFA and does little or nothing about it, or the teacher who gives practically all of his time to NFA or FFA and little or no attention to other phases of his program of work.

We fail to share the opinion expressed by the great bard Shakespeare, especially in this case, namely, that there is something in a name: that a rose by any other name may not smell as sweet. Being generally known and thought of as the NFA man gives a limited and circumscribed meaning to his over-all objectives, activities, and functions and connotes a narrowing circumscribed meaning to his program of work.

Teacher Is Vocational Agriculture Teacher First

The teacher of vocational agriculture is, first of all, the teacher of vocational agriculture with all the meaning that the name implies. His over-all objective is to instruct, encourage, inspire and assist his pupils to become progressively established in farming by all honorable, approved and conscientious efforts that he can muster to that end. His end objective is not a process, not a method, not the excellency achieved by an individual or group in his classes; but to expose his pupils to the kind, quality and quantity of experiences that will enable them to make satisfactory progress in farming or related interests.

When the agriculture teacher has cleaned his educational window, he will be able to see and realize the several phases of his program of work and hence will be in better position to consider each phase in proper proportion. He will realize that there must be an effort on his part to expose his pupils to such experiences that they will acquire competencies in the production, care and disposition of crops and animals, and the mechanical know-how in the department use and care of various tools and production equipment. Planning supervised farming programs, making arrangements for financing programs, cooperative endeavors to get the benefits of the economies inherent in such activities are among the several efficiency factors that the agriculture teacher hopes will become important elements in his pupils' experiences.

Values of NFA and FFA

The NFA and FFA, by the very nature of their objectives, are considered by many thinkers in the field of agricultural education as important teaching devices because, for the most part, the activities considered in the program are already motivated. The program, especially through its contest activities, has a challenging appeal if properly administered by the teacher of vocational agriculture and participated in fully and freely by the members. Among the important lessons and values to be achieved through the NFA and FFA are the following: (1) Good sportsmanship through friendly rivalry. The members soon learn good habits of behavior and the virtue of humility. They are, as it were, pushed upward and onward in maturity of thought. They soon learn the triumph of success in an unostentatious way and are spurred on to greater challenges, hustle and initiative through the discipline of defeat. (2) Among the most significant values to be derived through the NFA or FFA device is what may be considered as concomitant learning. The teacher whose effort and objectives in conducting his NFA or FFA program, or any other teaching objective for that matter, is to emphasize some immediate fact or go deeply into incidental circumstances with respect to the situation at hand as it now exists in his attempt to put over his job of teaching, whether with NFA or otherwise, without considering the implications of such teachings and life-long values and permanent learning situations perhaps needs to clean his pedagogical window.

The boy who learns the ingredients that go into a feed ration for his hogs, cows or poultry will in time forget many of the ingredients and feed rations. He may even forget some of the names of the animals for which the ration was prepared. But if the lessons in feeding domestic farm animals

are properly taught with proper emphasis given to leads and implications in a good feeding program, the pupil will perhaps never forget the important lesson that domestic animals should be fed balanced rations if the greatest results from them are to be expected. The pupil will be taught that man is ever on the march in research and experimentation and that the ingredients that go to make up certain rations may change, but the need of the body for a balanced ration for both animals and humans will perhaps never change. It is most likely true that the history teacher does a lesser job of teaching who focuses his efforts on names, dates and detail incidents regarding historical events. If in teaching about the American military officer Benedict Arnold, who later became a traitor to his country, it is, in taking the long view of history, temporary transitory and of questionable importance for the teacher to insist only that the pupils know the name of Benedict Arnold; that he was born in Norwich, Conn., January 14, 1741; that he served his country well for a while and later deserted to the enemy and became a traitor to his country. Many of these facts and incidents surrounding them will soon be forgotten by the pupil, but if taught in broad concomitant, historical perspective, even the name of Benedict Arnold may be forgotten, but it is unlikely that the pupil will ever forget the great lesson of patriotism and the love and devotion one needs to have for his country. Hence, the pupil of vocational agriculture, through his NFA or FFA chapter, or the history pupil, through broad significant exemplary teaching, will be nurtured into the kind and quality of individual these organizations seek to objectify. (3) Through these youth organizations greater manual skills are to be realized. One important feature of the chapter programs is skillful use of tools and farm mechanics equipment and facilities. The NFA member soon realizes that good working equipment kept in proper adjustment and well cared for will enable him to do a job in farm mechanics with greater accuracy, precision, and effectiveness through the farm mechanics contests sponsored by the NFA and FFA chapters. The member is not only interested in getting the job done but becomes interested in doing a praiseworthy job, realizing that the article or project he produces will be considered in competition for a prize along with that of thousands of other members. Hence, there will be no limit to his efforts to become more skillful in his farm mechanics endeavors. (4) In an unselective group of farm boys, one is seldom sure of the pupil's permanent vocational interest. There is, therefore, much exploratory experience and guidance value made possible through these youth organizations. In such competitive activities as the quartet singing contests, quiz contests, public speaking contests, etcetera, etcetera, it is not unusual for a boy to discover his interest in vocational endeavors in many cases quite unrelated to his original choice. (5) In addition to the economic, educational and social implications made possible through these youth organizations, perhaps the greatest, or at least the most significant, value to be derived is citizenship through leadership training. The teacher who fails in his opportunity to stress citizenship through the various and sundry means made possible through the NFA and FFA loses one of his greatest civic potentials. The very fact that NFA and FFA boys have the opportunity to bring together groups of boys, organize and conduct meetings under approved parliamentary procedure and learn the rudiments of majority rule in a democratic process is a teaching value of unusual importance. The experience gained in working together on a chapter, state, and national basis where members run for office, formulate platforms and are elected by their peers on the basis of achievement record are doubtless at the very warp and woof of leadership training for citizenship.

Thus, again it may be emphasized that there is more to the teaching of vocational agriculture than conducting an NFA or FFA program. But it should also be remembered that along with the other teaching objectives in vocational agriculture and methods and procedures in putting over the job, making use of the NFA and FFA up to the extent of their greatest teaching potential and vitality should result in a keeness of insight on the part of the member and whet his interest to a keener edge of get-up-and-get in carrying on an all around supervised farming program in vocational agriculture. Thus, to the teacher of vocational agriculture who sees through a glass darkly his obligations, duties and responsibilities and opportunities in carrying out his teaching program, we would say wash the window, wash away the dust of inertia and indifference that becloud his educational vision. □

As a first-year teacher of agriculture

Meeting the Challenge

W. R. BROWN, Teacher Education, U. of Georgia

One has but to listen to the conversation of thinking people, read the newspaper and professional magazines, look at television, or listen to the radio only briefly to realize that there are some mighty powerful forces at work in this world and that many momentous changes are taking place. If one reads, looks, or listens a little longer, he may become rather disturbed by that which he reads, sees, or hears. If he looks, listens, or reads about these things for any length of time and does a bit of thinking for himself, he cannot help but feel that these are times which should challenge the best that is in everyone. In no field of endeavor is the challenge any greater than it is in the field of education, and no teacher has a greater challenge today than does the teacher of vocational agriculture.

A number of recent events, changes, and scientific developments have served to focus attention on our schools at all levels to a greater degree probably than ever before in history. Some people have gone so far as to say that the schools in America are not doing their job at all and that sweeping changes in philosophy, curriculum and methods are in order. Even some of our school leaders are saying by their actions, if not by words, that vocational education in agriculture and other fields has out-lived its usefulness. These people are advocating that America discard or change drastically a system of education that has given the United States great abundance and the highest standard of living in the world. They are suggesting that the United States pattern its schools after those of Soviet Russia, a system which Russia is finding to be unrealistic and is abandoning even more rapidly than she set it up. (See Richard Renfield in the March, 1959, *NEA Journal*.)

All this furor about America's schools has not been without its benefits, however. People who are more sober-minded and clear thinking are taking a more searching look at the schools in this country to determine how they can be improved. Dr. James B. Conant's excellent study, for example, reveals that there are many fine schools in the United States and that there is not so much wrong with the average American high school that some consolidations, better counseling, certain ability groupings and more attention to individual needs at all levels, some tightening up on the matter of standards, a more functional approach to the teaching of English, the proper attention to vocational training, and so on, would not correct.

Nevertheless, the fact remains that public education is being looked at through critical eyes and the continued need for vocational agriculture is being challenged in certain circles. In this latter connection, however, it is well to remember that for the United States as a whole agriculture is the basis for the jobs of 37 out of every 100 workers and its production accounts for more than $100 billion in agribusiness annually. In some states more than 50 per cent of all workers are employed in agriculture and jobs dependent upon agriculture. Farmers of the United States produce and sell more than $30 billion worth of products each year, and in 1957 farmers purchased $14 billion worth of products from industry.* It should be noted, also, that recent population projections point to the fact that an increase of around 40 per cent in overall agricultural production will be needed to feed, clothe, and house the 225 million people expected to be in the United States by 1975.**

Then, too, those who are vitally interested in agriculture and agricultural education must recognize the tremendous impact of the rapid change and the scientific developments in agriculture itself. "The challenge is here. Will it be met?" someone asks. And the answer is clear. "It will be met! Will you be a part of it?"

Qualities Needed. One who accepts the challenge as a first-year teacher of vocational agriculture in these times of momentous change must have, first of all, *faith*: faith in God's plan and purpose for his life, faith in his own ability to do the job, faith in the future of agriculture. He must have vision and initiative. He must be willing to plan carefully all aspects of his work, and he must be willing to work hard in executing his plans. He must like to work with people, especially farm people, and he must be able to get along with people. He must be well trained both in technical agriculture and in educational methodology. He must have a keen appreciation of research, and he must be able to bring the findings of research and experimentation to bear in a practical way on the problems of the farm people with whom he works. He must see himself, not as a technical specialist who *tells* farmers what to do, but as an educational leader who has the *responsibility of leading farm people* to consider all the available facts and to weigh all factors in arriving at solutions to their problems. In a democracy, people must be taught to think for themselves!

What to do before accepting a position. Before accepting a position as a beginning teacher, one should first find out through a brief study of printed information and through a visit to the community something of the kind of community and the kind of agriculture he will be associated with if he accepts the job. He should talk at considerable length with county and local administrators about (1) the kind of vocational agriculture program he proposes to develop, (2) the kind of facilities they are willing to provide, (3) what the school administration and the community will expect of him, (4) the kind of support he can expect of the administration, (5) probable student load and class schedules, (6) salary, (7) policies regarding use of department facilities and financial support of shop and other aspects of program, (8) existence of an active advisory council, (9) whether or not he will be expected to favor certain local politicians with his business, and (10) other pertinent matters. He should be straight-forward and business-like in all his contacts. He should then investigate living accommodations. If he is married, his wife should make this investigation with him.

What to do after accepting a position. The way one begins his work in a new situation usually has a great deal to do with his ultimate success. The beginning teacher of agriculture should find an acceptable place to live and move into the community just as soon as possible. He and his wife should seek immediately to become a part of the community. A word of caution may be in order here, however, since some communities have a habit of shouldering onto new teachers a great many jobs and responsibilities. The first-year teacher should tactfully decline to accept responsibilities which will seriously hinder his efforts to get his vocational agriculture program going properly. The young teacher should make an effort to meet the various community leaders as rapidly as possible. In making these contacts, he should be friendly yet business-like in talking with people about their work or his own program, and he should not encroach upon their time unduly. He should seek to devise some scheme for remembering people's names and faces.

Two of the first jobs that the new teacher should undertake are as follows: (1) making a detailed study of the community's agricultural and human resources, as a means of discovering needs and problems around which to build his program, and (2) taking an inventory of the facilities for which he is accepting responsibility, especially shop tools and equipment. These should be completed within the first week to ten days, if at all possible. Although the teacher will have developed and signed, no doubt, a formal program of work as a part of his contract, this more or less sets forth the broad general areas within which his real program will be developed.

As soon as jobs one and two in the paragraph above have been completed, the teacher should sit down with school administrators and advisory council to discuss the findings of his community study and project more specific plans for conducting the program during the year ahead. He should seek the active interest and support of these people in helping him to carry out his program.

While the teacher may have already visited some of his prospective students before finishing up the jobs mentioned above, he should now begin this on-farm visiting in earnest so that he may become acquainted with prospective students and their parents and gain firsthand knowledge of their home-farm situations. He should not only visit in-school prospects, but adults as well. He should use some type of farm survey form to record pertinent facts about each farm for later use.

The teacher should also begin getting his facilities in order and begin

*J. W. Fanning, Chairman, Division of Agricultural Economics, The University of Georgia.
**Agricultural Research Service, United States Department of Agriculture.

looking over his reference materials and other teaching aids to see if they are up-to-date and adequate in quantity. In this connection, it should be pointed out that the young teacher should acquire early the habit of keeping on the alert for new developments in agriculture. He will need to read extensively in technical and professional magazines and work continuously at the job of obtaining the latest bulletins and other teaching materials and aids.

The young teacher will do well to establish a good working relationship with other agencies in the community who are interested in farm people. He should seek to establish the best possible relationships with other faculty members in the school.

He should determine the extent to which an effective FFA program has been developed and work closely with FFA officers in stimulating interest in the FFA and in following through on plans already set up. He should seek to gain the active participation of all members in planning (or replanning) and executing the FFA program of work for the coming year.

In the matters of setting up the instructional program for the various classes, making preparation for teaching and teaching, the young teacher should stick to the methods and procedures he has been taught until he has gained sufficient experience to enable him to devise better techniques and procedures. He should seek to avoid repetition in his teaching at the different grade levels, as each succeeding year of agriculture should extend the scope and difficulty of understandings, abilities, and skills developed. As a background for the development of the needed skills and abilities to be developed at each grade level, the young teacher should seek to utilize appropriate scientific and technical information in the development of basic understandings essential to sound decision-making in agriculture. There is a great need for the latter in vocational agriculture today.

The young teacher should seek to establish a wholesome, friendly relationship with his students. But from the very beginning he should be firm, fair, and business-like in all his dealings with students. He should be punctual in getting class work under way, and should permit no waste of time. He will gain and hold the respect of students by so doing.

The first-year teacher will have so many demands upon his time that some budgeting of time will be absolutely necessary. He should seek at all times to *put first things first* in the allotment of time.

The beginning teacher should seek to keep school officials, parents and the lay public informed of the needs, plans and accomplishments of the vocational agriculture department and FFA Chapter. He should also take stock of his work occasionally to determine strengths and weaknesses, and he should seek constantly to make needed improvements.

In closing, it seems in order to suggest that the young teacher should seek actively the advice and counsel of all those who are in position to help him.

Quoting from *Schools for Our Times*, by Willard E. Givens, "Within the teacher lies the greatest weakness or the greatest strength of American education." Best of luck to all who will be starting out in this great profession in the months ahead. □

Some Problems of Beginning Agriculture Teachers

FREDDIE G. GARNER, Vo-Ag Instructor, Groveland, Florida

Transition of a new teacher of vocational agriculture from college life into the actual teaching profession could be compared to the moulting of many of our common forms of life. This is a period which provides wonderful experience for the new teacher. No doubt, if many of us had the opportunity to again make our debut into the teaching profession, various changes would be evident. The new agriculture teacher has been trained to dispose of numerous problems and yet many of the problems of true life seem to be quite different from the ones anticipated. Some sections of the United States present the teacher with problems that are possibly known in no other place. The writer will endeavor to present a few problems encountered during the initial stages of the teaching career.

As the individual emerges into the teaching profession, he suddenly finds himself on the giving end instead of the receiving end, which means that he is now directing the instruction where previously it was directed toward him. This may be clarified by saying he has been taken out of the audience and placed on the stage. Every person, both young and old, is constantly gazing upon the activities of the new teacher. The problem we are concerned with here is the adjustment necessary for the change over from a student's life to that of a teacher's. It is highly probable that a number of teachers never successfully make the necessary adjustment; therefore, their efforts are in vain, and the person will most likely drop out of the teaching profession soon.

Being a stranger in a community is somewhat of a problem for the new teacher since many things depend upon his ability to win friends and influence people. Many people in the community are most anxious to help the program if they are approached, yet the new teacher has not had the opportunity to become acquainted with them. It is very evident that the new teacher has more than his share of problems until he gets to know the people of the community.

One of the greatest problems confronting every beginning teacher is the acquiring and arranging of teaching material. Unlike all other teachers, we find many occasions when teaching materials are not at our finger tips. Since most teachers have textbooks, they simply announce the next chapter in the book as the topic for discussion, but the beginning agriculture teacher must acquire the material, construct lesson plans, and present the material in a professional manner. Many times we look to the experiment stations and universities for modern up-to-date material.

The beginning teacher finds many problems developing during instruction periods known as discipline problems. Of course, the new teacher will find the proper method of control through experience. The teacher must maintain democratic control over his students at all times or his position as a teacher will disintegrate.

The organizing and instructing of adult and young farmer classes is a difficult problem since the new teacher doesn't know who the prospective students are. Through survey we may find out who the prospects are and

the topics they would like discussed at the classes.

The agricultural program is organized so that a constant check is kept on the activities of the agricultural teacher. These reports give our superiors a picture of the quality of work being performed. Even though the reports serve a very useful purpose in reporting to the state and federal government the results obtained, they are a problem for the new teacher. The reports are not so complex that under normal circumstances teachers cannot correctly record the information, but the large quantity of reports pose a problem.

Each year the follow-up records must be brought up to date. It is certain that a new teacher in the community would find it very difficult to obtain adequate information on students of previous years. He probably does not know any of them personally and would find it quite difficult to locate people he has never seen.

In conclusion, it can be said that these are only a few problems of beginning agriculture teachers, and some new teachers may find these to be very minor problems whereas other problems are of greater significance to them. Finally, let's condense the above problems and take a look at them all together with the most important coming first:

1. Reports to be filled out.
2. Keeping follow-up records on people unknown to the new teacher.
3. Organizing adult classes when many of the prospective students are not known.
4. Acquiring and arranging teaching materials.
5. Discipline.
6. Getting acquainted with the people of the community.
7. Change over from college life to that of a teacher. □

Improving Reading Ability

of vocational agriculture students

RON MEHRER, Vo-Ag Instructor, Linton, N. D.

Ron Mehrer

VOCATIONAL agriculture teachers the nation over are aware of the reading ability problems of their students. There have been many ideas and suggestions presented that are designed to combat the problem. The method described here has met with success in the Linton vocational agriculture department during the past year.

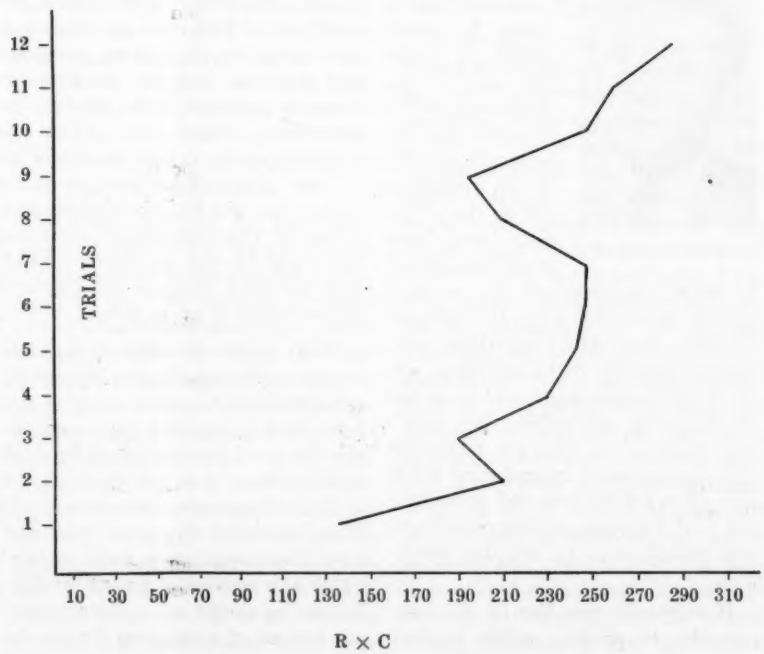
Convincing the students that they can and should improve their reading ability is the first step. A good time to do this is at the beginning of the freshman year during an orientation unit. Two or three days spent on instruction dealing with methods of improving reading is certainly well spent. During this time, acquaint the boys with good reading habits such as reading groups of words, proper eye movements, scanning material for important material, not moving lips, etc.

After the student knows what should be done and why it is important for him to improve his reading ability, the second phase of instruction is brought into the picture.

Ten minutes of class time every two weeks is specifically set aside for self evaluation of progress. During the ten minute period, each student is given a pamphlet or bulletin pertaining to subject material being taught to the class at that time. (If the class were studying sheep production, for example, the bulletin would deal with sheep production.) As the boys read the publication, the instructor keeps track of elapsed time. It is a good idea to write the time on the chalkboard about every ten seconds after the first boy finishes. As each boy finishes reading the material, he writes down the elapsed time.

When everyone is finished, the instructor picks up all the pamphlets and passes out a prepared test on the

Test No.	*Date*	*Rate*	*Comprehension*	*R x C*
1	9-10	271	50	136
2	10-10	231	90	208
3	11 10	242	80	194
4	12-10	253	90	228
5	1-10	257	90	231
6	2-10	260	90	234
7	3-10	232	100	232
8	3-25	262	80	210
9	4-10	258	80	206
10	4-25	280	90	252
11	5-10	291	90	262
12	5-20	310	90	279



material read. The boys answer the questions, put their time on the sheet and are finished with their part of the evaluation session.

Next, the instructor determines reading rates for each of the boys by dividing the number of words in the pamphlet by the time required to read it. It is advisable to have the boys calculate the number of words by having each boy count the words in a paragraph or two. The total number of words may then be computed by adding the amounts in each paragraph.

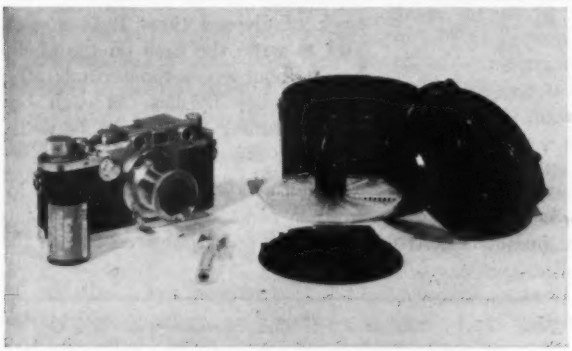
After correcting the test papers, all the data necessary to evaluate each student is at hand.

Suppose a student read the material at a rate of 231 words per minute. He receives a score of 90 on the quiz. In effect, this means he remembered 90% of what he read, or that his comprehension is 90%. To get a true index of reading ability, the rate and comprehension must be multiplied. If 231 is multiplied by 90%, the reading ability index number for that student is 208.

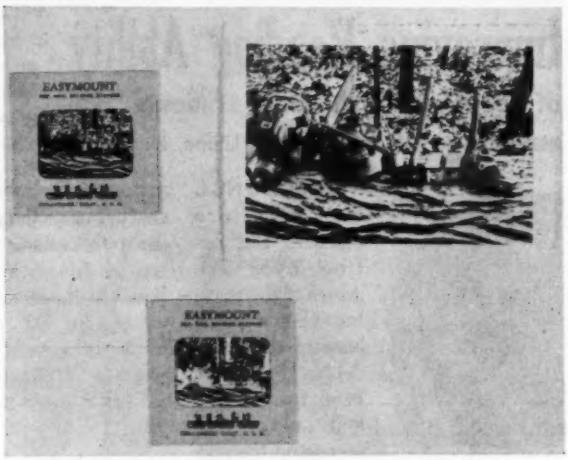
It may be advisable for the teacher to prepare a chart, much like the one illustrated, so that the boy can see his improvement graphically. Each boy should keep his chart in his vocational agriculture notebook.

Students will have a tendency to compare scores among themselves. It should be stressed, therefore, that the purpose of the exercise is not to compare one student's ability with that of another, but to see how much each student can improve his own score during the course of the school term.

A project such as the one outlined here can increase a student's reading ability remarkably in a nine month period. □



The only equipment necessary is your camera and an inexpensive developing tank.



The Vo-Ag teacher's choice may be positive transparencies or negatives for prints. The ones shown above of hand tools used in logging were made in the woods by Kingsley Greene, Vo-Ag teacher, Hinsdale, N. Y.

A new aid for vo-ag teachers - - -

A "Two-in-One" Film

CLODUS R. SMITH, Teacher Education, U. of Maryland

Clodus R. Smith

IF YOU could sincerely tell a farmer he could double or triple the use of his equipment and at the same time improve the quality of his products and do this at no extra cost, you could rest assured he would be interested. As an agriculture leader, you are in the business of selling ideas. Many vocational agriculture teachers make extensive use of 35 mm camera equipment as an aid in presenting and selling their product. Many of us who use miniature camera equipment in producing slides and prints for teaching and promoting our work welcome any opportunity to find added ways to use this handy tool.

How would you like to use only one film to produce either positive transparencies or negatives for prints? Sound interesting? This means we could put to better use our camera in visualizing our discussions, programs and activities. You can do the very thing we proposed to the farmer. The agriculture leader can double or triple the use he is now making of his 35 mm photographic equipment by making use of a film like Kodak's Panatomic-X. This high quality, extra fine grain film fits the vocational agriculture teacher's demands for excellent reproductions in every detail.

What makes this film so desirable for the professional agriculture worker? Panatomic-X, which many of you have used in exposing for prints, can *also* be used to produce sharp high quality slides. It is unique in that it is the only popular American made film that enjoys this great versatility. This "two-in-one" film may be used either as a positive or a negative. This is done by simply using the appropriate method of developing for the desired product. This film makes the 35 mm camera one of the most versatile pieces of equipment that can be used by vocational agriculture teachers and other agriculture leaders in selling their program. For those of you who desire a fast film in your work, this versatile film is still the one for you if you know that you want positive transparencies. For this purpose, an ASA rating of 80 for daylight and 64 for tungsten may be used. This film compares favorably with medium speed films, yet maintains its sharpness of detail and extra fine grain qualities not characteristic of "fast" films.

What are some of this film's desirable characteristics? Its attributes lie in excellence of quality, "two-in-oneness," exposure variability, versatility in processing, direct-positives, and economy.

Quality—When you use this film you are using one with very fine grain and exceptional resolving power qual-

ities. This is of particular importance in choosing 35 mm film. Resolving power refers to the ability of a film to distinguish between very fine divided lines which will allow a film to reproduce fine detail on extreme enlargements, such as required in the projection of slides and filmstrips. It is known and revered by professional photographers for portraits and is used by advanced amateurs because of its quality. It is somewhat more "contrasty" than faster films, lending itself very well for copy work.

Two-in-oneness–This desirable characteristic makes this film the agriculture worker's friend. It becomes the complete film. When exposed at ASA 25 (tungsten, 20) Panatomic-X may be developed into either negatives or positive transparencies, both of high quality. This unique characteristic of this film allows you to decide upon the desired product *after* the film has been exposed.

Exposure Variability–This film may be exposed at two different ASA ratings. When one does not know whether he will want negatives or positives, he should expose this film at ASA 25 for daylight and 20 for tungsten. However, when he knows that he is going to process the film into positives, he may choose to use ASA rating of 80 for daylight and 64 for tungsten. There is no loss of quality of the reproduction. The writer has found no difference in the excellence of the quality of positive transparencies produced by either method.

Versatility–Many of us make slides of farming programs, new and approved practices, success stories as well as charts and other copy work for the classroom and other uses. Others make good use of a camera in producing photographs for promotional activities with newspapers, magazines and television. This film allows the vocational agriculture teacher to standardize his photographic work with one excellent quality film which will result in improved quality of his reproductions. The possibilities of this film for your use might be any of those listed below:

(a) Prints may be made from negatives, a process many of you have used over the years.

(b) Direct-positives may be produced in a single process. As you become proficient in planning your series, you may choose to leave your transparencies in filmstrip form just as they come from the developing tank. Processing to direct-positives is accomplished in a simple 1, 2, 3 process by following directions. The writer has not produced a single unusable positive by this process and he has just as many thumbs as the next agriculture teacher, and more than most. There is no need for exposure to light as in the case of color film transparencies.

(c) Positives may be produced by the negative-to-positive method. This is the conventional method of producing black and white slides. If you know you want a print and develop the film as a negative and later decide to use the exposure as a slide, you need not purchase an additional film to make positives. You may use unexposed Panatomic-X for this purpose. This is done by employing the use of a printing frame and placing the emulsion side of the negative to the emulsion side of the unexposed film and allowing a dim light to pass through the negative onto the film. In developing the film into a positive, you use the same chemicals and process as you did in producing the negative. Instructions are in each box.

(d) Prints may be produced from positives. A new paper which permits making prints from positive transparencies has made its appearance on the market. This will allow the vocational agriculture teacher to produce positive transparencies for his collection and from it select certain ones for prints.

With these possibilities, there are few limitations to what one can do with this film.

Direct-Positive–It is this desirable characteristic which makes this film so appealing to the professional agricultural worker. A person may "shoot" pictures in the afternoon and present them at an evening meeting. This involves a single process which anyone can follow. There are only five chemical solutions involved. Direct-positives produced in this manner have been clearer, brighter and with more detail than transparencies produced by the conventional method. This film and process has given particularly good results for copy work.

Why can this film be used as a "direct-positive"? The emulsion base in Panatomic-X is different from other popular films. The emulsion is coated with a silver haloid and when placed in the developer acts much the same as negative developers, producing a black silver deposit where the light struck it. The first wash acts as a short stop. The bleach forms a complex substance with only the black silver deposits. The clearing agent dissolves the complex substance formed by the bleach, leaving the previous blacked area clear. At this point, the film is both clear and milky white. Placing the film in the redeveloper which contains a fogging agent causes all the remaining silver haloid to turn black regardless of whether light struck it or not. The remaining process is like that of producing negatives.

Economy–Economy in visual aids may be appreciated by anyone who has had the opportunity to work in public schools. This process for producing transparencies is very inexpensive, costing less than a nickel per slide or frame. The cost is as follows:

10 rolls, 36 exposures, Panatomic-X Film @ $1.15 per roll	$11.50
1 Direct Positive Film Developing Outfit. (Will develop 10 rolls)	2.50
360 Ready Mounts @ .012	3.88
1 Box of Fix. (Not included in above outfit)	.20
	$18.08

This will process and mount approximately 360 slides for a nickel each, less than one-third of the cost of colored slides and about one-half the cost of commercial prints.

Processing Direct - Positives – This article will not concern itself with the developing of Panatomic-X film into negatives; the instructions are with each roll or it may be processed by your favorite photographic store. The writer knows of no laboratories offering a service for processing this film into positive transparencies. Until the demand for such a service will warrant a laboratory to do this work, it is necessary for the individual to process his positives. For your convenience, the processes will be discussed herein.

In the developing of pictures, following recommended time and temperature instructions is a must for amateurs. These are more than suggestions. They are results of scientific experiments and are backed up by many practical tests. If you follow them, you're almost certain of good results. Start by following them, not just one time, but consistently. Films must receive good agitation throughout the processing. In the development process, by-products of the reduction are formed and have a tendency to cling to the film. When this happens, a development restraining coat is formed which covers the emulsion and a fresh supply of developer is unable to get through to the emulsion. These by-products may collect in spots and prevent even development. Good agitation gives good contrast as it increases the effectiveness of the solutions. It is a specific and

important part of the developing of any kind of film.

Either the tray or the tank method may be used. The very nature of 35 mm photography makes tank development the more desirable. Handling film as is necessary with the tray method has its dangers. Dust spots and abrasions are more likely to be formed, and they will be magnified later upon projection. "Finally, of course, it just isn't convenient to loop five feet of narrow film back and forth through a small tray. It leads to comedy, consternation, constriction and catastrophe."

The tank method is suggested for it is economical and cleaner to use, spilling and splattering less. It usually produces cleaner positives (or negatives, for that matter) and it is easier to control your solution temperature. The tank method prevents toxic chemicals from getting on your hands and requires no darkroom. In using the tank for developing roll film, the dry undeveloped film is wound in the tank on a reel or within an apron. This is done in total darkness, unless a daylight loading tank is used. All other treatment of the film is done in a lighted room. Solutions may be poured into the tank and from the tank without exposing the film. Agitation is accomplished by shaking the tank or by mechanical means from the top of the reel or apron.

In processing the film for positive transparencies, Kodak's Direct-Positive Outfit is used. Mix chemicals as directed on each individual package in the "Outfit." Solutions other than the redeveloper are in quart amounts and have good keeping qualities. The writer is currently using solutions that have been mixed for more than three months. With the exception of the redeveloper, each of the solutions may be prepared and used at once or stored for later use. The redeveloper should be mixed immediately before use due to the fact that it will keep for only two hours. For your convenience, it is packaged in 5 pint-sized packages. Each of these packages will process 2 rolls of film. Solutions should be 68 degrees Fahrenheit at the time of use. Process Panatomic-X film using the procedure appropriate for the exposed film.

	ASA 80 (tungsten 64)	ASA 25 (tungsten 20)
First developer	8 minutes	6 minutes
Wash (running water)	2	2
Bleach	3	3
Clear	2	2
Redeveloper	8	8
Rinse (water)	1	1
Fix (Tank may be opened at end)	5	5
Wash	10	10

It may be noted that the only difference is that film exposed at a rating of ASA 25 requires two minutes less in both the first developer and redeveloper. All other steps are the same. By following these directions, the writer has had excellent results producing transparencies of high quality and he regards the process superior to the negative-to-positive method in simplicity and excellence of reproduction. This is in part due to the elimination of the critical negative-to-positive step. There is no chance for over or under-exposure in the direct-positive process. All variables concerning light and exposure are kept in your "trusty old camera" and the developing tank. The film comes from the tank in a usable filmstrip form. Both direct-positive processes have given equal results. The implications of two speeds and two processes may be regarded as follows: in using the film at a rating of ASA 25 (tungsten 20) allows one to reduce the processing time by 4 minutes as well as possible use as negatives, while exposing at the rating of ASA 80 (tungsten 64) one can have a faster film allowing for a faster shutter and larger f-stop for greater depth of field but is limited to positive transparencies in reproductions.

In summary, it can be stated that the agriculture teacher can do what we would like to be able to tell the farmer he could do—increase the use of his equipment and improve his product at no extra cost. The versatile Panatomic-X film has opened the way to a greater use of one of our most valuable aids, the 35 mm camera. Its use is limited only by the individual's imagination for uses of photographs, slides and filmstrips in his work. By using this "Two-in-one" film, you have a choice of either negatives or positives, both of excellent quality. Processing for prints is as easy as going to your nearest photographic or drugstore while processing for direct-positives is only as complicated as soil or milk testing, an every-day job for the agriculture teacher.

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This Is Photography—Its Means and Ends. Thomas H. Miller, W. Brummit, Garden City Books, New York

Black and White Transparencies with Kodak Panatomic-X Film, 35 mm. Kodak Pamphlet No. F-19

"Two-in-One Film." Myles J. Adler, *Camera 35;* 1957; No. 2 published by U. S. Camera Publishing Corp., New York. □

Promoting Interest in Dairy Herd Improvement

VIRGIL MARTINSON, Vo-Ag Instructor, Marshfield, Wisconsin

Virgil Martinson

How often have we as teachers asked ourselves questions concerning how we teach and what we teach? I am certain that all of us have pondered the following questions: Have we used the most meaningful approach? Has what we taught in the classroom been directly responsible for the change in farm operation? Have our methods been interesting to all, or at least a large majority, of our students? Is the task we are doing purposeful or is it looked upon as a drudgery which just has to be done? It has been said that no topic or subject in itself is dry or uninteresting. If the individual present-

Senior students testing milk. Left to right: James Korth, Reinhold Werth, Bernard Meyer.

ing the topic believes that it is uninteresting then it most certainly will be just that.

In some instances, milk testing becomes a task to be performed each month without a follow-up study. After repeating this proceudre for some time the student might rightly ask himself, his instructor, and his parents: What am I learning? What benefits am I getting out of this and how much improvement of our dairy enterprise will result from this activity?

Many programs of dairy herd testing fall short of their objective because records are not used to advantage. The average student will soon lose interest if he cannot be shown how the records he keeps in his book may be put to use and made beneficial to his father's dairy herd. In areas where dairying is the primary source of income, it certainly is justifiable to spend several weeks of class time each year in dairy herd analysis work. Some instructors use the information gained in this manner as the core of their curriculum.

For the past seven years we have tried to evaluate the dairy enterprise fully and thereby create in our students an awareness of the many problems of the dairy business. We feel that continuous progress has been made in our attempt to have our students see the dairy business in its true light.

At the conclusion of our testing year in September, each student begins preparing for the analysis of his records. Nontesters are paired up with testers to give every student the benefit of this follow-up study. A systematic approach is followed by having the student complete forms, most of which have been developed by the instructors. The forms used in their proper sequence are:

1. Computing yearly totals and averages for the herd.
2. Computing mature equivalent, 305 day lactation record.
3. Graph—showing yearly milk or butterfat production.
4. Feed cost sheet.
5. Yearly herd production and feed cost summary.
6. Culling guide for each cow.
7. Final rating sheet.
8. Plans for the future.

After a period of approximately ten days, the student begins to realize the D.H.I.A. program can point out many strengths and weaknesses if he will just take the time to look for for them. In nearly all cases, our students are very receptive to this phase of our instructional program.

During the past year the following information was revealed:

1. Average size herd	18.0
2. Average milk per cow	9433#
3. Average butter per cow	351#
4. Average feed cost per herd	$2,947.00
5. Feed cost per pound of butterfat	$ .45
6. Feed cost per 100# of milk	$1.69
7. Average feed consumed per cow	$164.55
8. Pounds of concentrate consumed per cow	2301#
Amount purchased per cow	906#

Considerable progress has been made in improving quality milk as a result of cow clipping, sterilizing utensils before milking, rinsing milking machines and utensils in tepid water after milking, and cooling milk to 52 degrees or less. In the area of feeding, progress has been made in the clipping of pastures, rotational grazing, feeding cows balanced rations, and feeding silage. There has been increased interest in the installation of such labor saving devices as feed carts, barn foggers, electric cow trainers, and milk carts.

Continued emphasis will be needed to attain greater participation in mastitis control programs, paving barnyards, pasture improvement, providing better quality hay, feeding dry cows grain, use of purebred sires or artificial insemination, feeding cows according to production and the feeding of balanced rations.

In the past, feed costs have been determined by the inventory method. Although this method has been quite satisfactory it was felt that some improvement could be made. As a result a new feed cost sheet has been developed which shows the cost of roughage and concentrates and also shows the value of the product above or below feed cost. These monthly records are kept on each cow. □

- - - Six basic steps to effective use

Visual Materials

HAROLD BINKLEY, Teacher Education, U. of Kentucky

This article deals with using visual materials in teaching, which includes use of pictures, charts, and graphs in an opaque projector; slides, filmstrips, movies, specimen objects, wall charts, and chalkboard tables and drawings. The discussion is centered around one kind of visual material—slides. However, the points made in connection with slides will apply to the use of other visual materials.

Harold Binkley

THE proper use of visual materials in vocational agriculture is basic and fundamental to good teaching. Visual materials should be used to provide an educational experience needed to help reach an important teaching objective. Many of the things students need to learn can be enriched through the use of good visual materials. Use of visual materials can be justified in teaching only in terms of clearly defined objectives—learnings to be secured. Their use must be in keeping with the fact that learning is a self-active process, that observation is a self-active rather than a passive process.

Many slides have been developed in agriculture which, when properly used, can make a significant contribution to effective teaching. On the other hand, very few movies and filmstrips have been developed which lend themselves to use in teaching specific practices or in securing specific learnings. As a rule, movies and film strips are too general and cover the entire subject.

Slides that are to be used in teaching should be carefully selected by the teacher *to meet a specific need*. A few slides wisely selected and carefully used are much more productive in teaching-learning than when several slides are shown. The teacher must *learn to select and use slides effectively* if he is to cause them to make their greatest contribution to good teaching.

Effective use of slides may be divided into six steps:

1. Be clear on the purpose the slides are to serve
2. Preview the slides
3. Introduce the slides
4. Show under good conditions
5. Discuss and arrive at a decision
6. Apply to farming programs

Be Clear on the Purpose the Slides Are to Serve

Some conditions or purposes that justify the use of slides are:

1. When there is a need for developing or getting acquainted with a situation or to cause the group to set goals or to recognize their problems—"to set the stage" for a series of problems for class discussion and solution.
2. When there is need for acquiring additional information before certain problems can be solved. In many such cases the most helpful way of acquiring the information is through the careful observation of a slide (or slides) which meets a specific need. A slide may be very helpful in teaching or clearing up the basic science.
3. When there is need for the class to see and observe or make application of the decision or conclusion arrived at in the classroom. Much can be gained by having students to carefully observe selected slides which show the results of good practices carried out. Observing results will reinforce the idea that the decision reached with the class "will work."
4. To demonstrate a manipulative skill or a step in a manipulative operation. There are several film-strips which demonstrate step-by-step manipulative operations in farm mechanics. These may be used to good advantage in teaching certain skills.

Preview the Slides

Take time to carefully study the slides and make notes as part of the preparation for using them in the class. This is previewing. Previewing is important for several reasons:

1. The teacher must know what the slides show before he can decide whether or not they can be made to contribute to attaining the teaching objective.
2. Decide where, in the lesson plan, the slides should be presented so as to be most effective.
3. Decide how to guide or direct student observation so that the significant things shown will be carefully observed.

Introduce the Slides

In introducing the slides, the teacher should carefully explain to the class what the slides are about and why they are being used. He should call attention specifically to what the students are to look for. Usually, a series of carefully worded questions is most effective in guiding student observation and study. The teacher should cause the students to see and believe that what is to be shown will be valuable to them.

Show Under Good Conditions

The fourth step is to show the slides under good conditions. Everyone must be seated where he can see and hear well. The screen should be large enough so that even those in the back row can see. A rule of thumb is to have the back row no farther away than six times the screen width. Put the screen up above the heads of the class. Don't put chairs out near the edge of the room where the screen images will appear distorted. Be sure the room is sufficiently dark.

If the teacher must compromise with too many of these "ideal" conditions in order to show slides, it might be better to choose some other form of visual materials such as specimen objects, wall charts, or graphs. Conditions for using these materials are not quite so critical as for using slides.

Discuss and Arrive at a Decision

A carefully planned discussion during the using of slides is very important. Carefully prepared questions listed in a definite sequence to guide student observation and discussion are highly important if the slides are to make the greatest contribution to good teaching. The questions may be written on the board where they can be uncovered during the discussion, or the teacher may have them in his written lesson plan. Allow the students to ask any questions they may have. Guide the group to arrive at a solution or conclusion to the problem being dealt with.

Apply to Farming Programs

The final step in using slides (or any other visual material) effectively is to have the students make application to their farming programs. In many cases this can be done by having individual members of the group apply the decision or conclusion to their projects.

It is the teacher's responsibility to see that proper use is made of the information or ideas in the solution of the problem at hand and that application of the conclusion is made to the farming programs of the individual students. This should not be left to chance.

The teacher who carefully selects slides to serve a specific purpose, carefully previews them, introduces them well, uses them under good conditions, carefully directs the discussion in arriving at a sound decision and guides his students to make application of the decision to farming programs will cause his visual materials to make a significant contribution to good teaching. □

Teaching Based on Problem Solving

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The procedures used in the classroom depend upon the philosophy of the teacher. It is therefore appropriate that I, in this discussion of one teaching procedure, should first state briefly my philosophy of education in so far as it has a bearing upon the phase of teaching covered in my assignment. My text is found in the home community where I was reared as a farm boy,—Akron Township, Peoria County, Illinois. Akron Township is six miles square, it is serviced by surveyed roads one mile apart in each direction, 36 square miles, 36 sections. Within this tract were little one-room schools every two miles or nine in all. What does this mean? Where population requires and topography permits this is a working symbol of the belief of the people in a democracy that education is basic to the development of a society that perpetuates and improves the highest qualities of human beings,—physical, mental, spiritual. Yes, the little rural school is a symbol of democracy's belief in the importance of intellectual development. Accepting this as a most desirable outcome in American life, I accept as my responsibility the furtherance of mental growth in my students hoping that they in turn will strive earnestly to promote desirable mental development in their students. (For the present we shall pass by the philosophical question of ideals.)

What procedures in class management produce the best mental development? In my experiences of trial and error there is one that stands out above all others, *problem solving*. Here students learn factual knowledge through using it in life situations and, more important even,

they also may learn the procedures to follow in solving problems. A further thought in the area of philosophy is that "Education is the process of changing an individual from what he is into what he is to be." The changes are in his ideals, interests, mental abilities like reasoning, understanding and judgment, physical abilities, attitudes and appreciations. Now which of these human values are basic to success in the narrow vocational area of a complete education? In farming, as an example, I believe that the managerial phases determine largely the degree of success. Management is based on mental abilities; more specifically, reasoning, understanding and judgment. What is the classroom technique in vocational classes to develop reasoning, understanding and judgment? The answer, in capital letters, is PROBLEM SOLVING.

What Is a Problem? Where Found?

Speaking on the high school level, a problem is a life situation calling for a decision. Using the word in high school classes, I find that asking the question, "What problems do you boys have?" is less well understood at first than the equivalent question, "What decisions will you be making soon in your projects?" But soon both terms become familiar. For once Dewey becomes practical and allows the definition that a problem is a forked-road situation calling for a decision. Everyone recognizes that, when one arrives at a fork in the road, he is required to make a decision.

Where do farm boys find their problems? The answer, "Right in their projects." After a boy decides on a sow and litter project he cannot carry it out without making a series of decisions. An elementary illustration: He must *decide* which sow, which gilt he will buy. If he doesn't make that decision he will never even start his project. Then in turn he *decides* what is an economical ration to feed during the gestation period. What changes shall he make in the farrowing house? What changes in feeding before farrowing? What preparation of the farrowing house as farrowing time approaches? Shall he install a brooder? What precautions shall be observed during farrowing?, etc., etc. This illustration suggests the conclusion that, in an entire livestock enterprise, from selection of breeding animals to marketing the product, there might easily be listed some fifty decisions that a boy or a farmer would need to make in carrying that enterprise to its conclusion. So you ask, when you consider that projects are elected in some half-dozen major livestock enterprises and nearly as many crop enterprises, your students have more decisions to be made than you can consider in class. What are you going to do about that? The answer is clear, the procedure is simple to any good teacher of agriculture who "knows his farming." From the many real problems select the *most important* for consideration in your classes. Which are most important? Since the vocational objective in managing brood sows is to make money, then *select* those *decisions*, those problems that affect most directly the *financial returns* from the swine enterprise. Likewise in other enterprises, solve first those problems affecting the financial returns. The *good* teacher of agriculture must know his farming well enough to make these decisions.

Thus we have considered "What is a problem?" "Where do you find them?" and "Which do you select for use in class?"

In Contrast, Another Way

Perhaps this is the place to insert a paragraph on another type of teaching with another objective. It is older than any of us in this meeting. And, worst of all, it is easily carried out. It is the old and familiar fact teaching, adequately covered by the term *memorization*. Yes, teaching the memorization of facts is still the all-too-common procedure in today's classrooms. Memorization is found in the category of human values as a mental ability of the lowest order, below creative thinking, below understanding, judgment, and reasoning. In a simple statement of the difference, memorization is concerned largely with the accumulation of facts; thinking in all forms depends upon knowing the facts *plus using* them in life situations. An assignment using this technique might be: "Here's a bulletin on poultry culling. Be able to answer any question I will ask from it." What is called for? Merely a knowledge of facts. Life calls for a knowledge of facts plus the ability to use them. Problem solving is rich in the technique of using facts in life situations. It is well to point out that an examination or test following teaching for memorization merely asks for a recall of facts; no references to their use in life. Probably in this audience there are many over 40 years of age who experienced little other than memorization in their high school courses. Verily, the symbol of the little one-room school was not, is not, applied in this teaching procedure so as to develop quality thinking.

Problem Solving in Operation

It is not possible within the limits of time allowed for this presentation to review many necessary elements of problem solving. But passing mention will be made to indicate where further study is necessary by you the listener or the reader.

The problems as found in the going enterprises and as stated in the examples above were what I call "naked problems." To be ready for presentation to the class, they must be "dressed up." A problem must be stated clearly and definitely; it must be appropriate in scope and difficulty; it must involve thinking of quality and quantity; it must be true to life and otherwise interesting to the pupils. The requirements of a good assignment must be in mind when making the assignment to the class. Here are stated a few good problems for certain farm boys with an omission of the *details* of a good assignment:

"Ten of you boys in this class are planning corn projects and all in the class grow corn on your home farms. Since it is nearing the time to order your seed corn, I am sure you are ready to make the very important decision of selecting the best hybrid for you to buy. Because of the uniformity of soil type throughout this community I am quite sure that the same choice will be the best for all of you. Let's have in mind what we saw last year on two farms where we made field trips and where there was a difference of at least 10 bushels per acre where two different varieties were grown. Part of this difference could have been due to the variety. Do you realize what a difference of 5 to 8 bushels per acre would be worth to each of you if you make the right choice? Ten boys, around 100 acre, 600 or 700 more bushels, possibly $1,000 or more profit from making the right choice. This could be a money-making decision for all of you."

"George has a very serious problem connected with his project in managing his home poultry flock and asks for your help. George has been a good worker in helping several of you solve your problems so I am sure you will all be glad to lend a hand. His poultry house needs considerable overhauling. Some of yours do, too. His folks are renters so he is limited in how much outlay he can make. Of course, you can't be of help until you see his present layout and learn his wishes and plans. So we will make a field trip tomorrow, get data on the whole project situation, then come back and plan our study as a basis of making our best recommendations for George."

"Frank is studying their farm practices at homes and questioning some, wondering if what they are doing is really best. One thing they have always done is to fall-plow for corn. They have 40 acres of two-year mixed clover meadow where they will grow corn next year. Let's help him by making a study of his query of fall plowing versus spring plowing. Maybe others of you should be questioning this same practice."

"I don't suppose any of you boys consider yourselves doctors but perhaps you can act the part of a doctor today. Jim says he has some "sick" corn and wants to know the cause and cure. He says there is an area of possibly half an acre in his project field where his corn is slowly turning yel-

low. He brought a few plants to class. He would like to know why and also if there is anything he can do to check the color change."

Here in these four problems are examples of problem solving situations, the crux of my assignment. If the students are directed to find the needed technical and practical facts and use them properly in making decisions, would they "learn anything" about farming from the experiences? Would they learn any facts? What else would be done? The very thing that is lacking in mere memorization. They would *use* the needed facts in making true-to-life decisions. And that is the best way to learn facts for retention,—learn them by using them in thinking. "Thinking is the recall and use of facts." Suppose a boy studies vocational agriculture for four years and a half of his lessons are of the problem-solving type. Under the direction of a good teacher would he complete his course able to think better because of this extensive use of problem solving?

"The chief reason why pupils do not learn to think as we wish them to is that our teaching situations often do not require thought. Many of our schoolroom exercises employ verbal memory largely if not entirely."

"The child learns to think only by thinking; he learns to solve problems only by practice in solving problems. To improve thinking and problem solving in general, abundant practice must be provided in all school subjects and activities."

"The ability to think well is the first fruit of all true education. If we are not producing it and if we doubt even our ability to do so, then indeed is the education we seek to give illusory and futile."

Procedure in Problem Solving

With the problem presented to the class, as we have just illustrated, the next step is most important,—determining the procedure to follow in solving it. Here is where your speaker appears to part company with leading educators. For example, Dewey in his discussion of problem solving presents only one type of problem and accordingly only one procedure consisting of five steps. I make bold in my text to suggest four types of problems appropriate to classes in vocational agriculture and a rather distinct procedure for solving problems of each type.

I will name the types of problems that I use and which were intentionally illustrated in the four examples given above.

Type 1. A forked-road situation, illustrated in the third problem.

Type 2. A possibilities—factors chart, illustrated in the first problem.

Type 3. Given a situation to be improved, illustrated in the second problem.

Type 4. Given an effect, to find the cause, illustrated in the fourth problem.

The next step in our journey to the goal of superior teaching is to determine the procedure one follows in solving a problem of each type. How many of my listeners can tell me the procedure, step by step, they follow in solving a problem under each type? The number unable to do so is much too large. Time and space do not permit my deriving my answers, but the procedure is the familiar one of generalizing from experiences. Simply formulate three, six, or more problems of one type, for all of which you have in mind the needed relevant facts. Record the "working of your mind" in solving each problem. Then generalize and list your generalizations as "Steps in Solving Problems of Type 1." Follow the same procedure in each of the other types. (My steps, so discovered, are found in my textbook, Methods of Good Teaching, Chapter IV).

Helping Students to Solve Problems

In the procedure just reported, a teacher—or any other person—determines the steps in problem solving from his experiences primarily for just one reason,—to know how to solve his own problems. That certainly is reason enough for you and for me to find out and to use these steps. But the teacher, having done this, has available a by-product far more valuable than the main product of his efforts. He can, if he will, through problem solving in his classes help his students to determine the steps followed and thus equip them with a mental ability that will be of inestimable value through life. Remember that there are no fashion changes in good thinking. About how many students would a teacher of vocational agriculture in a department of average size teach in his course of tenure in 15 to 25 years. Would that be an outcome of teaching that would bring satisfaction and have value far beyond that of memorizing facts as the chief outcome of teaching? Recalling the little one-room school located every two miles on the prairies of Illinois, as a symbol of the importance of education in the operation of a democracy, can we not look with pride upon our efforts to help our students achieve this worthy goal if our teachers of vocational agriculture take advantage of their opportunities, teach by problem solving and while doing this, teach the procedures in problem solving,—procedures which will serve them through life? If ever the term "beautiful teaching" is appropriately used, it must be when applied to teaching in vocational agriculture which takes advantage of its opportunities and, when appropriate, uses the problem solving procedures. But those are sad words, "teaching that takes advantage of its opportunities." So few teachers teach on this basis; so many teach merely the learning of facts.

Can All Teaching in Agriculture be Based on Problem Solving?

Not as I see it. But this is based on a concept of one's philosophy dealing with outcomes, goals, and objectives of teaching. In my own thinking I see the objectives of vocational teaching concerned with "changing a farm boy from what he is into what he will be." Also I see these changes made in the values which education should develop or improve in order that the learner may approach my concept of an ideally educated individual, namely, his ideals or goals, his interests, his mental abilities such as reasoning, understanding, judgment and creative thinking, his manipulative abilities, his attitudes, his appreciation and any other desirable values where growth might be effected. Does a teacher use problems to effect change or growth in each of these values? I do not think so. In my teaching I would not attempt to develop ideals by means of problems. In developing interests, some results could be attained from problem solving, but I believe it would be a minority source. Definitely, the development of manipulative abilities is not derived from problem solving. The mental abilities of reasoning, understanding and judgment are without doubt most appropriately developed through problem solving. In farming these abilities comprise the essence of management, the one place where farmers make or lose their money. It would be my estimate that possibly 60% of our lessons in agriculture should deal with managerial abilities and, therefore, involve problem solving. But they don't.

Problem Solving Is By-Passed

The first reason for not using problem solving in *some* situations is that it is very difficult to get relevant technical information at all or in sufficient quantity that certain problems can be solved in class. This is a situation that will persist until state supervisors and teacher trainers find ways of collecting and dispersing to the teachers the technical and practical information needed in solving those problems for which teachers alone cannot find time in their crowded programs to gather sufficient relevant information. A few states have made a good start on this excellent teaching aid. A second reason for passing up problem solving in developing some needed abilities is the lack of time by the teacher who has a large program going and cannot find in each day of 24 hours or each week of six days the time required to make adequate preparation for solving problems at certain times. "The flesh is willing but the time is short." Then, alas, there is another group of teachers who do not even begin to use problem solving because

"fact teaching" is *easier, quicker.* How much time does it take to plan a lesson that continues "what we talked about yesterday," or to list 20 fact questions about feeding brood sows, or planting potatoes or buying feeders. This to be followed by reading to "find the answers" and then a test to find out "if they know the facts." "Why work your head off on problem solving when this way will get you by?" is the question of those with no ideals, no goals, no aspirations. Verily, the poor, the sparrows, and the shirkers are with us always.

When Problem Solving Is Impossible, WHAT?

When teaching on the problem basis is impossible for good and sufficient reasons such as inadequate or insufficient data (factual information of all kinds) is there nothing available but fact teaching? I think there is definitely something better. It consists of involving reasoning, understanding, and judgment, even creative effort in their numerous applications in, for example, boys projects and other farming in the community. This teaching procedure is based upon a clear concept of each of these mental processes, their likenesses and differences. The relation of reasoning to understanding, the difference between reasoning and judgment situations, and the place of cause and effect relationships in understanding, —these terms and their implication in thinking may be well used through the agency of appropriate questions. As simple examples, these questions are submitted. In preparing a seed bed for potatoes, you just said you want a deep seed bed of .... inches, in medium but not fine tilth and free from trash and weeds. *Give your reasons* for your wanting these conditions. (2) You just made the statement that if lights are used in a poultry house at certain periods, the egg production of the flock will be increased. Why does this happen? (A call for the cause and effect chain of facts showing *understanding.*) (3) Here are four crown splices. Which is the best? (*Judgment*) It is apparent that these questions call for the *recall* and *use of facts,* not mere memorization. Therefore, they involve *thinking.* Since they involve local farming, they are *practical.* So when it is impossible to teach on the basis of problem solving, I recommend emphasis on reasoning, understanding and judgment as mental abilities worthy of development through abundant practice in answering carefully planned questions

Now, very briefly, my last point. Problem solving calls for good data, the best available. Available data vary in appropriateness and in quality. Students should be directed to appraise all kinds of available data, from the superior which comes from our Experiment Station to the "frothy talk" of the country store or the barber shop. Its surprising what 15 minutes of explanation by the teacher will do at this point. (See my Developing a Scale of Quality Date, pp. 151-156.)

In Conclusion

Let's ease up on memory teaching.

"Memorization should give way to interesting thought as the characteristic activity of the school. When we have brought this about we shall find that we have banished at a single stroke many of the greatest difficulties met in our efforts to secure and hold interest." "It is easy to make it more satisfying to pupils to understand than to memorize, and to think than merely read."

Let's try to direct our pupils to think.

"Perhaps the reason why so few of us do our own thinking is that the schools never seriously attempted to teach us to think for ourselves. Perhaps the reason why so many of us are blind followers is that we have been trained to be blind followers. Effective thinking is one of the most important factors in successful living."

"All teaching which does not stimulate real and careful thinking makes for stupidity. It may be the stupidity which in later life shows itself in obstinate prejudice."

Let's develop good thinking through problem solving.

"The child learns to think only by thinking; he learns to solve problems only by practice in solving problems. To improve thinking and problem solving in general, abundant practice must be provided in all school subjects and activities."

And, repeating, "The ability to think well is the first fruit of all true education. If we are not producing it and if we doubt even our ability to do so, then indeed is the education we seek to give illusory and futile."

It can be done. I've seen it.

Let's give *quality teaching* a trial. Let's give *quality teaching* a chance. □

Some techniques for - - -

Selling Purebred Livestock

LEDWARD E. SMITH, Vo-Ag Instructor, Hagerstown, Ind.

Ledward Smith

MANY purbred breeders have had the golden opportunity of selling purebred stock as a result of winning coveted championships and, on the other hand, many purebred breeders have marketed purebred stock at the local stockyards. In either case, it didn't take a genius to do the job. Between these two extremes lies the ideal market for good quality purebred breeding stock. Here is where it takes an alert and energetic purebred breeder to get the job done. The price you receive for purebred stock and the demand you have for your stock depends upon you, the purebred breeder.

There are many established ways of selling purebred stock; intelligent and money making in every respect. It would be well to analyze your present system and compare it with the ideas below.

The easiest thing in the world for a purebred breeder to do is to talk about his animals. This should well be because love for your stock is one of the essentials of the purebred business. Any chance conversation is an excellent opportunity to talk about your animals. Even the total stranger who appears to be no prospective customer at all might well be the man who by chance mentions your name to a prospective breeder.

A cheap and effective form of advertising is the farm sign. Many who pass and read it are not interested, but people who do pass and read it that are interested will certainly remember it. Tell them what you have to sell and make the sign attractive. Keeping it neat and clean at all times is quite important. Many people use the outward impression to influence their ideas concerning the inward effect. If you live off of a main road, place a sign on the main road indicating the location of your farm.

Another effective method of selling your stock is the "moving billboard"; none other than a neatly lettered sign on your farm truck. Wherever you go, this roving sign invites people to your place.

Key agricultural people in your area are an important part of your advertising program. Vocational agriculture teachers, county agents, soil conservationists, artificial inseminators, G.I. instructors, veterinarians, feed dealers, and farm organization presidents all

are missionaries of good will for the purebred breeder. Be sure these people are on your mailing list and a part of your advertising scheme.

The use of good quality printed stationery giving your name and address, breed name, phone and how to get to your farm gives a good impression to prospective buyers. Much of the correspondence used by breeders is on cheap lined paper obviously purchased at the local dime store. This will certainly create a poor impression.

It is a known fact that breeding certificates, registration papers and other materials concerning your stock are only as good as the breeder himself. If you have bloodlines of importance and with a recognized history, use this information wisely and carefully. Buyers want the facts, not a lot of padded and insignificant material. Keep your proof of your stock brief and to the point, but use it all. You should capitalize on such facts as certification, progeny tests and other tests. If you don't have proof on your animals, start now to get this valuable information. Consult with your breed association office and find out what needs to be done to prove your stock, then get the job done. This will pay you great dividends.

Livestock men are more type conscious now than ever before. You should endeavor to know the faults of your stock and select carefully to improve or eradicate these faults. Constant improvement becomes a trademark of a good breeder and facts concerning these improvements soon get around.

Be sure you have accurate records on feed conversion rates. This, like type, is a concern of modern purebred breeders.

Use your breed association publication for advertising. Your breed association and breed secretary are constantly working for the purebred breeder. You should use them at every opportunity. Invite the breed association secretary or fieldman to visit your farm. They can help you.

You can be a successful purebred livestock breeder. □

A first - - -

Indiana Holds Beginning Teacher Workshop

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J. Clouse

C. Scott

Indiana held its first workshop for beginning teachers of vocational agriculture in July, 1958. It was organized and planned by a joint committee from the state supervisor's office and the teacher training staff at Purdue University under the chairmanship of R. A. McKinney, Assistant State Supervisor of Agricultural Education.

The group of teachers met in Indianapolis for one and one-half days and then visited a nearby vocational agriculture department and two farms on the last half-day of the workshop.

As a program opener, W. A. Williams, Acting Director of Vocational Education, and two teachers of vocational agriculture, Virgil Telfer and J. Vonn Hayes, discussed "Professional Attitudes and Professional Organizations" with the group. The value of belonging to and taking an active part in appropriate professional organizations was stressed.

Considerable time was devoted to Future Farmers of American instruction. Bill Dorsey, State FFA President, gave an inspirational talk on "Why Have an FFA?," followed by a session on developing a local FFA Chapter Program of Work, led by Howard Lea. The Colfax FFA Chapter gave a demonstration on opening ceremonies and parliamentary procedure. This was followed by a slide presentation on chapter organization led by Carl Scott. Areas covered were: (1) Essentials of a good Chapter; (2) Chapter meetings; (3) Officer training; (4) Summer activities; (5) Parent and son banquets; (6) Financing the FFA Chapter; (7) FFA public relations.

The value of a good local advisory committee was stressed by Bryan Zuerner, a second year teacher, and Virgil Telfer, a teacher with many years of experience, who worked with the group in developing some of the ways such a committee can best be organized and helped to function properly.

Two experienced teachers, Harold Grosskreutz and James Van Cleave, reviewed how they organized and carried out their out-of-school programs for adult and young farmers. The group was especially interested in the way these men used their advisory committee members and committees within their out-of-school groups to help plan for their adult and young farmer programs.

One of the highlights of the two-day program was a program called "You Asked for It" at which the beginning teacher group had an opportunity to ask questions about any part of the vocational agriculture program. A panel of four teacher trainers and one assistant state supervisor was on the receiving end and did a good job of giving the group some straight answers. This session was followed by a "Coke Klatch" at which each of the beginners had an opportunity to meet on an informal and personal basis and get better acquainted with the teacher trainer and supervisor for his respective area. Plans were also made during this time for visits in the local school by the teacher trainers and supervisors.

Dr. Paul Hemp (now at the University of Illinois) was in charge of the session on supervised farm practice. Instruction on the use of the "Indiana Farmer Training Book" was given by Carl Hylton, a vocational agriculture teacher. He also explained the close relationship between supervised farm practice and Future Farmers of America. Following this, the group visited the Morristown Vocational Agriculture Department to take part in a tour of two farms and observe farm visitation procedures. The farms toured were:

Smith Farm—son is in day class and father in adult class at Morristown.
Father and son explained their farming program and explained how vocational agriculture has helped them.

Linville Farm—son is former member of day class, father is member of adult class and advisory council.

Father and son explained their farming programs and told how vocational agriculture has helped them.

At the end of the farm tours, the group met in the vocational agriculture department at Morristown at which time an evaluation sheet for the workshop was distributed.

The teachers reported that they were most interested in the following areas of the workshop program in the order listed:

1. The "You Asked for It" session.
2. Future Farmers of America activities.
3. Advisory Committe.
4. Adult and Young Farmer Programs.
5. Supervised Farming Tour.
6. State Report Forms and Records.
7. The Indiana Farmer Training Book.

All of the twenty-six teachers attending the workshop thought that such a meeting should be held for the beginning teachers next year and a large majority were interested in having group meetings held during the coming year. Each teacher present was also interested in receiving all the help possible from the teacher training and state supervisory staff members.

Following the desires expressed by the group, two follow-up meetings were held so that this group of teachers would have an opportunity to meet again, share their problems and raise questions concerning problems that they encountered during the first few months of teaching. These were held on November 8 and 15 with about half of the total group attending each of the two meetings. They were informal in nature with three things being stressed. The things given special consideration were: 1) The Course of Study, 2) Out-of-School Classes, and 3) Supervised Farm Practice. Ample time was also provided for questions and discussion with the individual teacher's problems and concerns being given special attention. The groups felt that this one day meeting was very helpful in helping them to straighten out and clarify many points, and it was generally agreed that a one-day meeting of this same group should be held next summer.

Summary

We feel that this Beginning Teacher Workshop helped each of the young men involved to realize that he was not alone in having unanswered questions about what to do or where to go for help on a particular question. It also helped them to get better acquainted with some of the experienced teachers in the state, the teacher training staff and the state supervisory staff. And perhaps most important, it helped them to realize that teaching vocational agriculture is a full-time, interesting, challenging occupation. It was felt by the teachers and staff concerned that the workshop was most successful and at the present time it is planned to make it an annual affair. As one of the beginning teachers put it, "This was an excellent capsheaf for the college training program." □

A Summer Program

For teachers of vocational agriculture

M. C. GAAR, Teacher Education, Louisiana State University

M. C. Gaar

VOCATIONAL agriculture was designed for the purpose of providing around-the-year systematic instruction for day class boys (in-school), young farmers, and adult farmers. Accordingly, many teachers of vocational agriculture *plan* and *carry out* their summer programs of educational duties as wisely and conscientiously as they do their day class activities during the regular school year. Many of them work hard during the summer months but do not prepare or have a well organized plan or schedule of activities to follow. Consequently, too many of their efforts are not as effective as they might be. At the same time, too many other teachers utilize the summer period as an opportunity to work on advanced degrees or for extended vacations. Needless to say, practices of the latter groups are not commendable situations for our vocational agricultural program. It is felt that insufficient effort has been made by the proper administrators and supervisors to prevent and/or correct those undesirable situations.

The primary difficulty in most of the problem cases appears to be that of a lack of setting up a time schedule for the efficient conduct of their total summer programs of activities. Because of the pressure for greater efficiency, most professional people, regardless of the variety of activity, are forced to follow a schedule of their time. Certainly, teachers of vocational agriculture are not exceptions.

Frequently teachers are criticized by their fellow workers, some farmers, local business men and others for being paid a salary for 12 months in the year while working only nine months. Often critics are justified in their accusations; however, we feel that most critics do not know or understand what teachers do during the summer period. Therefore, a considerable amount of such criticism is due to the following situations:

1. Too many teachers prepare a long list of unclassified activities with no organized plan or schedule for performing them.
2. Even though vocational agriculture is an integral part of the public school system, local school administrators and supervisors do not adequately aid, urge, or require their teachers to prepare specific plans and time schedules in order that they may execute systematic and efficient summer programs.
3. Too many teachers engage in other business activities which consume a very large part of their time that should be devoted to their regular school work.

The following are some suggestions for planning the summer program:

1. Prepare *form* showing the time schedule. This is necessary because teachers, like other professional individuals, must follow a schedule if they expect to perform their duties in an orderly and successful manner. (see schedule)
2. First, provide time in the schedule for fixed dates and periods. They usually are:
   a. State FFA Convention (most of one week)
   b. State Vocational Conference (most of one week)
   c. Vacation period during slackest summer period (usually 2 weeks)
   d. Student outside community educational tour (one week, if such is to be done)
3. The above fixed dates will consume four to five weeks (depending upon whether or not the student summer tour is made) of the entire 12-weeks summer period. In such case there will remain seven or eight weeks for

the teachers to conduct intensive programs of on-the-farm instruction with all groups of students as well as take care of inside departmental activities.

4. During the seven- or eight-week period in the community, preferably Monday, Tuesday, Wednesday, and Thursday of each week should be set aside for specific on-the-farm instruction for all groups. Since this constitutes the teachers' major duty, we feel that approximately 80 per cent of their time should be devoted to it.

While making these educational on-the-farm visits, teachers should perform many of the following duties:

a. Check on the conduct of the supervised farming programs that boys set up during the school year.
b. Be certain that all students, including young farmers and adults, utilize proper practices at superior level on all enterprises in their programs.
c. Check all boys' record books for completion and correctness.
d. Grade all boys on their practices according to quality of their work.
e. Provide direct aid on the performance of superior practices as it is needed.
f. Consult with day school boys' parents as needs arise and at opportune times.
g. Select materials and products for fairs. Don't wait until "fair time" to secure quality products.
h. Discuss plans with prospective owners for securing purebred livestock, higher quality plants and seeds.
i. Visit prospective pupils while on these trips to discuss vocational agriculture—what it is, what it does.
j. Carry a camera (preferably 35 mm) at all times so as to take pictures of day class boys, young farmers, and adults and their superior practices.

5. Friday. All day Friday, or another day during each week, should be spent in the classroom, shop and food laboratory center. These days in the schedule must be religiously followed. The following are some suggested activities:

a. Keep files in order and current.
b. Check bulletin supply against jobs in the course of study for following year. Order additional ones that will be needed.
c. Check instructional materials and make up new requisitions that will be needed.
d. Check shop equipment and supplies. Make up requisition for replacements and supplies.
e. Prepare articles for local newspaper.
f. Consult with food laboratory center operator on problems.
g. Plan for advisory council meetings.
h. Prepare for young farmer and adult class meetings. Plan for at least one class meeting for each group each month. (see schedule)
i. Complete plans for FFA educational tour (if conducted).
j. Take care of correspondence.
k. Plan for FFA meetings.

6. Suggestions for carrying out summer program. *THIS IS IMPORTANT.*

a. Prepare program and schedule in consultation with principals before school is out for summer period. *Get principal's approval.*
b. Prepare enough duplicate copies so that the principal, county supervisor, county superintendent, vocational agriculture supervisor, and state director may each have a copy. Post one copy at the school where it can be seen from the outside, post one or more copies on the town bulletin board, and request the local press to run your schedule in the local paper frequently during the summer months.
c. Publicize the schedule so that school administrators, businessmen, farmers and everyone concerned will know the specific days for on-the-farm visits, the specific days to be in the office and the exact dates for convention, conference, educational tour, and the vacation.

Sample Summer Program of Work for Teachers of Vo-Ag, 1959

Month	*Week*	*Monday, Tuesday, Wednesday, Thursday*	*Friday*	*Comments*
1st	1	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	Visit boys with urgent problems. Young farmer class Friday night.
	2	FFA Convention		Friday night open
	3	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	Adult class Friday night
	4	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	FFA Meeting Friday night
2nd	1	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	Young Farmer Meeting Friday night
	2	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	Friday night open
	3	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	Adult Farmer Meeting Friday night
	4	On-the-farm visits to: Boys, Young Farmers, Adults, Prospective Pupils	Office Classroom Shop	FFA Meeting Friday night
3rd	1	Louisiana Vocational Conference		Friday night open
	2 3	Two weeks for vacation		
	4	FFA Educational tour, if possible.		

d. Length of work day. Every individual (family head) is entitled to have some time at his home to live with his family, work in his yard and garden, and to do other chores. Again, teachers of vocational agriculture are not exceptions and can have such time provided they organize their activities.

It is both wise and professional that teachers diplomatically discourage breaks in summer program schedule; however, if and when emergencies should arise, they should be handled as such. For example, if during the office day a call is received to administer minor treatment to a sick animal, such call should be made. However, before leaving the office place a note on the door stating where you have gone and approximate time of return. This is not a new practice.

It has been found that if a teacher starts out in the morning by 7 a.m., he can make an average of six to eight pupil visits per day (including day-class, young and adult farmers) by 3 to 4 o'clock p.m. and at the same

time not over or under socialize. This plan will make it possible for the teachers to have the remaining part of each day and four evenings per week with their families.

A well organized summer program is possible; however, a certain amount of professional discipline will be necessary. Much of that is obviously overdue for too many good teachers of vocational agriculture.

The chart is an example for a diagrammatic schedule of the teacher of vocational agriculture summer program. □

Inside story about a successful - - -

Multiple Teacher Department

DAVID C. BARRETT, Vo-Ag Instructor, Ashley, Ohio

H. Drake (left) is looking over the second welder purchased for the shop. R. Fuller (center) and D. Barrett (right) are discussing the welder. Conferences like this occur whenever large decisions or department policies are involved.

Benefits to Community

One of the chief benefits of multiple teacher departments to the community is a better out-of-school program for farmers. Before a second teacher was added, a limited adult and young farmer program was conducted because of the large high school load. We now have an active program. Last year 18 adult meetings were held and 23 young farmer classes were held.

A very noticeable in-school benefit is better guidance and more training in farm shop skills and agricultural engineering. This is possible because of more shop time available and fewer students in shop at one time. Approximately 40% to 45% of a student's four-year program is spent in shop.

Another in-school advantage is that classes can be combined under one teacher if the other teacher is gone from school on a judging trip or other business.

Our Situation

Multiple teacher departments are increasing in Ohio because of consolidation of school districts. Elm Valley school district was consolidated in 1952, but the second vocational agriculture teacher was not added until the 1956-57 school year. Elm Valley was one of the first schools in Ohio to have a multiple teacher department. The reason the second teacher was added was because of the higher school enrollment in vocational agriculture. The enrollment has averaged 61 students since consolidation. The second and very important reason was that state aid was available for the second teacher's salary because we had two full units (30 boys constitute one full unit in Ohio).

Principles We Found Important

In hiring a second teacher, the school administrator, school board, and the present teacher arrived at a program we thought would work. We had to make the best use of existing classroom and shop facilities so we utilized both shop and classroom six periods a day. The freshmen and sophomore classes were divided into two sections; while one section was in class, the other was in shop. The freshman class alternated every three weeks and the sophomore class every six weeks.

I believe the reason our multiple teacher department has been successful is that each teacher's responsibilities are clearly defined. We also have daily conferences on mutual problems and talk things over.

Both teachers take equal part in school affairs and community activities. All public relations material is talked over before information is given out. Dividing responsibilities regarding FFA is probably our biggest problem, but we generally give each teacher a specific area and that is his sole responsibility. Both teachers attend all FFA meetings and executive officers' meetings.

We made some changes after the first year in our schedules to even the teaching load. With this article is a table showing our present set-up. This has worked for us for three years.

The first year, Teacher A taught all Agricultural Engineering and B taught

Mr. Fuller is helping this section of the sophomore class evaluate a tool carrying box.

This section of the sophomore class is studying a problem on fertilizing their wheat projects. Mr. Barrett is supervising.

all Farm Management. Both teachers thought it would be better if each teacher would keep his junior or senior class for project visitation in Management or Engineering. This would mean, in the junior or senior years, the students would only have contact with one teacher. Each junior and senior class is in shop for six weeks on Agricultural Engineering and then goes to the classroom for six weeks on Farm Management, each teacher teaching both subjects. As can be seen from the chart, one teacher has the Young Farmer program and one teacher has the Adult program.

Two-year Teaching Schedule

1957–58			1958–59		
Teacher	**A**	**B**	**Teacher**	**A**	**B**
Freshman	Class	Farm Shop	Freshman	Farm Shop	Class
Sophomore	Farm Shop	Class	Sophomore	Class	Farm Shop
Junior	Mg't & Eng.		Junior		Mg't & Eng.
Senior		Mg't & Eng.	Senior	Mg't & Eng.	
Adult		X	Adult		X
Young Farmer	X		Young Farmer	X	

Each teacher follows a particular class through school. For example, Teacher A has the sophomore class for project visitation. Next year these boys will be juniors and the teacher will still have them for visitation. The teacher who has a particular class for visitation teaches the class work for that class as freshman and sophomores so he can check project books, teach on home problems, etc.

We have developed a four-year program of instruction for our school. We did this so each student would receive the same type and amount of instruction, even though he has a different teacher for class or shop. This eliminates a hit or miss program developed every year, and the student knows what to expect in a four-year program of vocational agriculture.

This is our third year as a multiple-teacher department and I have sincerely enjoyed the experience. I think that such departments will increase in number. Perhaps it doesn't make less work for a teacher in a multiple department, but he can do a better job of working in a community. □

A System that Works - - -

Filing and Storage Facilities For Agriculture

HAROLD N. SLONE, Vo-Ag Instructor, Goshen, New York

Harold N. Slone

Is your filing system a "Hunt, Look, Cuss and Find," the "Hunt, Look, Cuss and Give Up" or one of "filing in the waste basket"? At times any system may qualify for each of these types, but a good filing and storage system can save time and nerves as well as increase the efficiency and effectiveness of teaching. Agriculture teachers get a tremendous amount of material much of which is useful and should not be filed in the "waste basket" just because it seems to have no immediate use.

A filing system is needed both for references and job outlines or lesson plans. Without a good reference filing system, no method of job outline can work efficiently or effectively.

Filing System

The bulletin filing system used in Goshen is the card system of job filing with listings under major agricultural titles such as (1) animal husbandry with subdivisions of 1.1 for beef cattle which is further subdivided 1.11 breeds, 1.12 feeding, 1.13 management and so on. Under animal husbandry also is 1.2 dairy cattle, general, with subdivisions of 1.21 breeds, 1.22 feeding and so on. Another major agricultural title is (2) farm engineering with subdivisions of 2.1 construction, 2.2 machinery, 2.3 repair work. There may be subdivisions under each of these if desired. A complete list of the main divisions and subdivisions is duplicated and made available to each pupil. A short explanation of the reference filing system to each pupil is all that is necessary for individuals to use the files.

The Oxford Pendaflex hanging folders with guides for filing jobs is most useful and efficient. There are two sizes in use, the box bottom type for filing large quantities of materials and the ordinary folder type. Any standard file cabinet can be converted to their use by inserting the metal frame in each drawer on which the folders hang. The main enterprises and job titles of each enterprise are typed on the labels and these are inserted in the plastic tabs which are attached to the top of each folder. In this method of filing, the job outline method of presentation, all reference material, including bulletins, field trip outlines and follow up tests, are in the folder ready to be used. New materials, including bulletins and news clippings, found useful in connection with the teaching of a job are simply inserted in the appropriate folder as they arrive. If material is too large to place in the folder, a note may be inserted indicating its identification and place of storage. Extra copies of bulletins or other source materials for class use are ordered ahead of need and kept in the bulletin file.

When a job is to be taught, the folder is lifted from the file and everything is ready for use with a minimum of time in preparation. The materials and references can be kept up to date for ease in job revision and other reference use at any time. This is a most effective and efficient method for teaching. It requires little time to set up the system, and it may be developed and added to at any time.

Storage Room

Every agricultural department should have a storage room for extra references and other teaching devices. A room 10 feet by 15 feet with several wide shelves spaced two feet apart serves as a good place to store filmstrips, slides and projector, testing equipment, record forms and books, samples of fertilizer, and seeds and feeds to name only a few. The large

News and Views of the Profession

John M. May

Professor John M. May, Director of the Division of Agriculture and Professor of Agricultural Education at Wisconsin State College, River Falls, from 1918 to 1957, died April 25, 1959. He had been ill for several weeks after suffering a cerebral hemmorrhage.

Mr. May was born July 27, 1888 in Marquette, Nebraska, but his family moved to Manhattan, Kansas, when he was two years old. He received the B.S. degree from Kansas State College and the M.S. degree from Cornell University. He did additional work at Ohio State University.

He married Miss Mable McDonald of Manhattan, Kansas, on August 26, 1921. Prior to joining the River Falls College faculty, he had taught in high schools at Central City, Nebraska, and Rochester, Minnesota.

Funeral services were held in the First Congregational Church in River Falls where he was a member.

Surviving are Mr. May's widow and two sons, Donald of Niagara Falls, Canada, employed by the North American Cyanamide Company, and James of Minneapolis, employed by the Ford Motor Company.

Mr. May joined the staff at River Falls in 1913, just a year after the Division of Agriculture was established. During his 40 years as Director of the Division, Mr. May was responsible for the training of approximately 950 men in the field of vocational agriculture.

He retired in June of 1957 as Director of the Division of Agriculture but continued to teach courses during the fall quarter of 1957. □

Filing and Storage Facilities

(Continued from page 94)

charts, maps and similar materials may be stored in a rack built in one corner of this room. This should have flat shelves long enough to accommodate the ordinary size charts, spaced about three inches apart. A list of the titles of each chart and their individual location in the rack should be maintained.

The arrangements and systems reported here for filing and storing agricultural instruction materials and supplies is the result of having tried several other methods which were discarded in favor of trying something else. This is what teachers need to do. If something that is being done causes annoyance and trouble, a better way of doing the job should be sought. Teachers should not be afraid to try something new. Perhaps they should be guided by the advice of the late Professor George Warren, the famous economist and farm management specialist, who advised "Be not the first by whom the new is tried, nor yet the last to lay the old aside." □

BOOK REVIEWS

SWINE SCIENCE by M. E. Ensminger. Published by The Interstate Printers and Publishers, Inc., Danville, Illinois. 543 pages; illustrated. 1957. Price $4.00.

This new book deals with a comprehensive study of the swine industry. It incorporates the most recent advances and trends in swine production and management. It takes into consideration the transition in swine production and the consumption of pork products of recent years which has increased the necessity for a better meat type hog, the introduction of new breeds, utilization of various breeding and management practices, and the changing of grading standards.

Swine Science is a revision of an earlier book by the author, *Swine Husbandry*. It is technical and complete enough as a basic text for the high school student and informative and practical enough to be used as a reference by the swine producer. Significant aspects of the book are illustrated by photos and tables which add to the usefulness and completeness of the book.

Dr. Ensminger is chairman of the Department of Animal Science at State College, Washington.

—Denver B. Hutson
Teacher Trainer
Arkansas

FARM MECHANICS TEXT AND HANDBOOK by L. J. Phipps, H. F. McColly, L. L. Scranton, and G. C. Cook. Published by The Interstate Printers and Publishers, Inc., Danville, Illinois. 814 pp., illustrated. 1959. Price $4.50.

The 1959 edition of *Farm Mechanics Text and Handbook* modernizes and adds to the contents of previous editions. Much of the text has been almost completely rewritten and represents a complete and comprehensive coverage of all areas on instruction in farm mechanics—farm shop work, farm power and machinery, farm buildings and conveniences, soil and water management, and rural electrification.

The book has been divided into many chapters for greater convenience to the teacher and for a more usable reference for the student. The chapters are built around an analysis of important farm jobs and each includes a list of typical problems and concerns of students. The steps of procedure involved in performing the various skills and projects are itemized whereby job sheets may be easily prepared.

This book has been designed to serve as a handbook as well as a textbook and is written in a style easily understood by the high school student. It contains a wealth of pictures and diagrams plus many tables and charts that illustrate nearly every point under discussion.

The authors have utilized the resources of many individuals and organizations in the preparation of this revised and enlarged edition in an effort to make it the most complete and up-to-date farm mechanics book available.

—Denver B. Hutson
Teacher Trainer
Arkansas

APPROVED PRACTICES IN FEEDS AND FEEDING by Daniel W. Cassard. Published by The Interstate, Printers and Publishers, Inc., Danville, Illinois. 299 p., illustrated. 1959. Price $2.00.

Approved Practices in Feeds and Feeding is a condensed book on feeding livestock. The purpose of the book is to furnish a comprehensive list of approved practices with an explanation of how these recommended practices should be conducted. The author has compiled reliable and practical information from his own knowledge and experiences and from publications and materials from state colleges and experiment stations from at least fourteen states representing all the major agricultural regions of the United States.

This book should be of general use in most any locality where livestock feeding is a problem. This book may be used as a reference or textbook for students of vocational agriculture, and should be helpful to anyone interested in efficient livestock feeding including farmers and ranchers, 4-H Club members, and county agents. Approved practices and procedures are discussed in practical terminology making the book valuable for either high school or college level students. The first part of the book is a general discussion of approved feeding practices and principles. This is followed by chapters dealing specifically with feeding of various major livestock enterprises including beef cattle, sheep, dairy cattle, hogs, and horses.

Dr. Daniel W. Cassard is chairman of the Animal Husbandry Department at the University of Nevada. The book is edited by Dr. E. M. Juergenson, Assistant Professor of Education at the University of California.

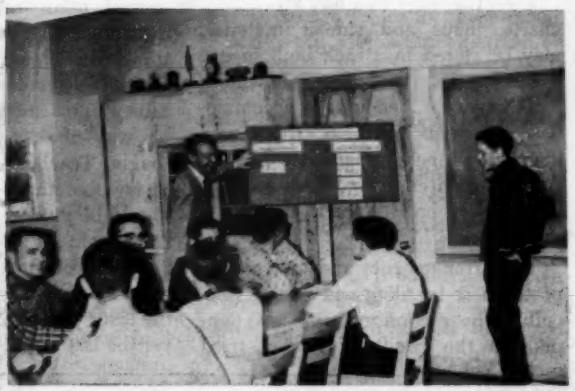
Earl H. Knebel,
Teacher Trainer,
Texas

Thomas Ketchum, senior in Agricultural Education at the University of Vermont, using a scale model of a dairy barn as a visual aid in his practice teaching at the Middlebury, Vermont, Vo-Ag Dept.

For assisting with FFA activities at the National Dairy Cattle Congress, National V.-Pres. J. Rulon presents gold paperweights to (l. to r.) M. Humphrey, Supervisor, Iowa; G. Barton, Supervisor, Iowa; J. Coverdale, Roth Packing Plant, Waterloo, Iowa; and D. Aebischer, Supervisor, Wisconsin. Seated (l. to r.) are W. McLeod, Regional Director, Sears Roebuck Foundation; and Miss Sandra Stout, National Dairy Princess, Stillwater, Okla.

Stories In Pictures

"THE JUDGES DELIBERATE"—After the Parliamentary Procedure Contest held at the Williamsport Technical Institute in April, 1958, the judges really had a time before the winner was chosen. Left to right, Robert Moore (Jersey Shore); Nathon Stuart, Attorney (Williamsport); Charles D. Carey, County Vocational Advisor (Standing); George Dietz (Muncy) and Gilbert Hancock (Principal, Loganton High School). (Photo by James P. Bressler, Teacher of Agriculture, Williamsport Technical Institute)



The use of teaching aids is a part of the training of Ohio teachers of Vocational Agriculture. In this picture David Francis, a student teacher, makes use of a flannel board in presenting information on Soil Bank to members of a class at Green Camp, Ohio.

Region III NVATA officers meeting, Spirit Lake, Iowa—Back row, l. to r.: C. Hall, Watertown, S. D.; G. Edin, Owatona, Minn.; C. Nygard, Bismarck, N. D.; J. Albracht, Hebron, Nebr.; K. Wall, Ellsworth, Wis.; N. Vandehoor. Front row, l. to r.: J. Wall, Waverly, Nebr.; J. Hamilton, Audubon, Iowa; V. Rice, Willeston, N. D.

Agricultural teachers honored on completion of 20 years service to vocational agriculture receive certificates and keys from past president, Edward Mott at the 48th Annual Convention of the Association of Agriculture Teachers of New York. (Left to right) Ronald Babcock, Roger Hopkins, Stephen Hubbell, William Crane, Maynard Boyce, Lyle Barnes, Lou Harvey, Clifford Luders, Homer Bray, and Donald Watson.